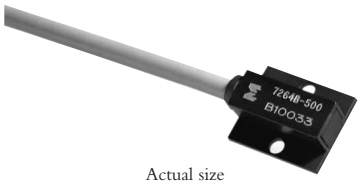
Piezoresistive Accelerometer

ENDEVCO MODEL 7264B

Model 7264B

- **Mechanical Overtravel Stops**
- **Small Size, Rugged**
- **500 g and 2000 g Full Scale Ranges**
- **DC Response**
- **Undamped**

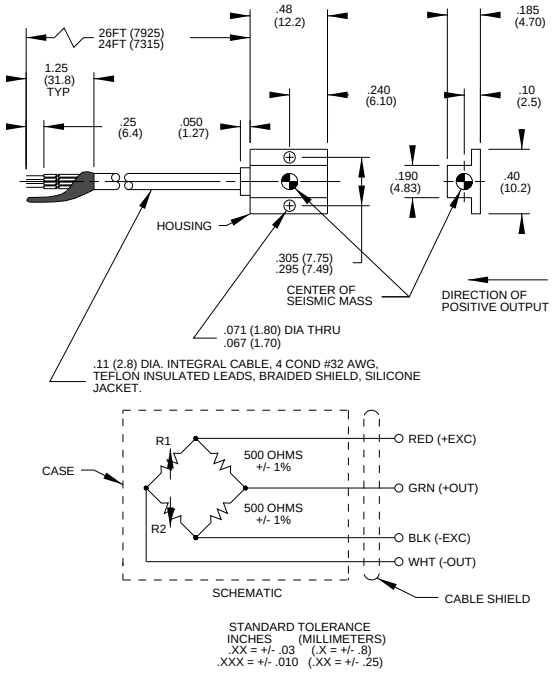


Actual size

DESCRIPTION

The ENDEVCO® Model 7264B is a very low mass piezoresistive accelerometer weighing only 1 gram. This accelerometer is designed for crash testing, flutter testing, rough road testing and similar applications that require minimal mass loading and a broad frequency response. Used for shock testing of lightweight systems or structures, the Model 7264B-2000 accelerometer also meets SAEJ211 specifications for anthropomorphic dummy instrumentation.

The Model 7264B utilizes an advanced micromachined sensor which includes integral mechanical stops. This monolithic sensor offers improved ruggedness, stability and reliability over previous designs. The Model 7264B has minimum damping, thereby producing no phase shift over the useful frequency range. With a frequency response extending down to dc or steady state acceleration, this accelerometer is ideal for measuring long duration transients as well as short duration shocks.



The Model 7264B offers excellent linearity and a wide frequency response. Further, this accelerometer offers stable performance over the temperature range of -65°F to +200°F (-54°C to +93°C) and has a full bridge circuit with fixed resistors for shunt calibration. This accelerometer has a full scale output of 400 mV with 10 Vdc excitation (sensitivity of 0.80 mV/g for -500 and 0.20 mV/g for -2000). It is also available with less than 1% transverse sensitivity ("T" option) on special order.

ENDEVCO Model 136 Three-Channel System, Model 4430A or Model 68207 BCAS™ Computer Controlled System are recommended as signal conditioner and power supply.

U.S. Patents 4,498,229 and 4,605,919

SPECIFICATIONS

CERTIFIED PERFORMANCE: All values are typical at 75°F (+24°C) and 10 Vdc excitation unless otherwise specified. Calibration data, traceable to the National Institute of Standards (NIST), is supplied.

	Units	7264B-500	7264B-2000
RANGE	g	±500	±2000
SENSITIVITY (at 100 Hz)	mV/g Typ	0.80	0.20
	(Min)	(0.60)	(0.15)
FREQUENCY RESPONSE			
(±5% max, ref. 100 Hz)	Hz	0 to 3000	0 to 5000
MOUNTED RESONANCE FREQUENCY	Hz	17 000	28 000
DAMPING RATIO		0.005	0.005
NON-LINEARITY AND HYSTERESIS			
(% of reading, to full range)	% Max	±1	±1

ENDEVCO MODEL 7264B

Piezoresistive Accelerometer

SPECIFICATIONS—continued

PERFORMANCE CHARACTERISTICS—continued

	Units	7264B-500	7264B-2000
TRANSVERSE SENSITIVITY [1]	% Max	3	3
ZERO MEASURAND OUTPUT	mV Max	±25	±25
THERMAL ZERO SHIFT			
From -40°F to +200°F (-40°C to +93°C)	mV Max	±10	±10
THERMAL SENSITIVITY SHIFT	%/°F Typ	- 0.06	- 0.06
From -40°F to +200°F (-40°C to +93°C)	%/°C Typ	- 0.10	-0.10
WARM-UP TIME	ms Max	1, 15 µ sec typical	1, 15 µ sec typical
BASE STRAIN SENSITIVITY			
(Per ISA 37.2 @ 250 µ strain)	Equiv. g's	< 0.1	< 0.1
MECHANICAL OVERTRAVEL STOPS	g's	1500 g typical, 750 g minimum	5000 g typical, 2500 g minimum

ELECTRICAL

EXCITATION [2]	10.0 Vdc
INPUT RESISTANCE [3]	600 ±300 ohms
OUTPUT RESISTANCE [3]	600 ±400 ohms
FIXED RESISTORS	500 ohms ±1%
INSULATION RESISTANCE	100 megohms minimum at 100 Vdc; leads to case, leads to shield, shield to case

PHYSICAL

CASE, MATERIAL	Blue Anodized aluminum alloy
ELECTRICAL, CONNECTIONS	Integral cable, four conductor No. 32 AWG Teflon® insulated leads, braided shield, silicone jacket
MOUNTING/TORQUE	Holes for two 0-80 mounting screws/3 lbf-in (0.3 Nm)
WEIGHT	1 gram (cable weighs 9 grams/meter)

ENVIRONMENTAL

ACCELERATION LIMITS (in any direction)		
Static	5000 g	10 000 g
Sinusoidal Vibration	1000 g pk below 3kHz	1000 g pk below 5kHz
Shock (half-sine pulse duration)	5000 g, 300 µsec or longer	10 000 g, 200 µsec or longer
TEMPERATURE		
Operating	-65°F to +200°F (-54°C to +93°C)	
Storage	-65°F to +250°F (-54°C to +121°C)	
HUMIDITY	Unit is epoxy sealed	
ALTITUDE	Unaffected	

CALIBRATION DATA SUPPLIED

SENSITIVITY (at 100 Hz and 10 g pk)	mV/g
FREQUENCY RESPONSE	20 Hz to 3000 Hz, % deviation reference 100 Hz; dB plot continued from 3000 to 30 000 Hz for 7264B-500: 20 Hz to 5000 Hz, % deviation reference 100 Hz; dB plot continued from 5000 to 30 000 Hz for 7264B -2000
ZERO MEASURAND OUTPUT	mV
MAXIMUM TRANSVERSE SENSITIVITY	% of sensitivity
INPUT AND OUTPUT RESISTANCE	Ohms

ACCESSORIES

EHM35	(1) ALLEN WRENCH
EHW196	(2) SIZE-0 FLAT WASHERS
EH492	(2) 0-80 X 3/16 INCH SOCKET HEAD CAP SCREWS

OPTIONAL ACCESSORIES

24328	4 CONDUCTOR SHIELDED CABLE
7964A	TRIAXIAL MOUNTING BLOCK

NOTES

1. 1% transverse sensitivity available as "T" option.
2. Lower excitation voltages may be used but should be specified at time of order to obtain best calibration.
3. Measured at approximately 1 Vdc. Bridge resistance increases with applied voltage due to heat dissipation in the strain gage elements.
4. The safety sleeve should be kept on unit when not in use to prevent possible handling damage.

NOTE: Tighter specifications available on special order.

Continued product improvement necessitates that Endevco reserve the right to modify these specifications without notice. Endevco maintains a program of constant surveillance over all products to ensure a high level of reliability. This program includes attention to reliability factors during product design, the support of stringent Quality Control requirements, and compulsory corrective action procedures. These measures, together with conservative specifications have made the name Endevco synonymous with reliability.

INTERTECHNOLOGY INC.
1-800-465-1600
1 Scarsdale Road
Don Mills, ON M3B 2R2
Tel: 416-445-5500
Fax: 416-445-1170
E-Mail: sales@intertechnology.com